



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,920	01/05/2001	Jonathon M. Hutchings	PD-980183	3866

7590 06/29/2004

Hughes Electronics Corporation
Patent Docket Administration
P.O. Box 956
Bldg 1, Mail Stop A109
EI Segundo, CA 90245-0956

EXAMINER

WONG, BLANCHE

ART UNIT	PAPER NUMBER
----------	--------------

2667

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,920

Applicant(s)

HUTCHINGS, JONATHON M.

Examiner

Blanche Wong

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1--23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claim 1** is objected to because of the following informalities: "adapted to" which appears in 4 and 6. Examiner suggests removing this phrase to make the claim more positive so that the functions and limitations that follow in the claim are performed by the outroute hub or data transmission timing apparatus. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 21** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 21 recites the limitation "said apparatus" in ln. 7 and 11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1,9,17** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Vanderspool, II et al. (U.S. Pat No. 5,261,118).

With regard to claims 1 and 9, Vanderspool discloses (See also Fig. 1)

a system 10 includes a control station 12 (an outroute hub) for controlling the distribution of system timing signal (transmit a timing signal) used for transmission station clock synchronization and message transmission timing, a communication satellite 14 (transmit a timing signal to a satellite; see also Fig. 1), and a plurality of transmission stations (network for receipt by said user terminals)(it follows that the control station distribute information or data to the plurality of transmission stations for transmission to selective call receivers, such as display pager 19, which is operational in the system), of which transmission stations 16 and 18 are shown for example only. Col. 2, ln. 67-col. 3, ln. 11; and

the transmission stations 16,18 (transmission apparatus in a network hub) include paging base stations 32,32' which are utilized to transmit the message data (data transmission apparatus) ... Frequency references 34,34' are provided which are coupled to the paging base station ... Also coupled to the frequency references 34,34' are clocks 36,36' (data transmission timing apparatus) ... The system timing signals (timing signal) received by the satellite receivers 38,38' are coupled to a comparing means, such as comparators 40,40', which compare (established based on said timing signal, said timing reference) the time adjustment factor information established at the control station with the current time indicated by the clocks 36,36' at each transmission station. The time adjustment factor information enables the transmission stations to

correct the clock time differences between the control station and the individual transmission station transmission clocks 36,36' ((established based on said timing signal, said timing reference, on which data transmission from said user terminal to said network hub is based). Col. 3, ln. 48-Col. 4, ln. 26.

With regard to claims 8 and 16, Vanderspool also discloses based on time correction factor (timing reference and path loss parameters are calculated from the time instants), time instants such as Tcf,Trec,Txmit,Tup,Tsat,Tdn, at which data frames transmitted from said user terminal are to arrive at said network hub, as recited in claim 8. Col. 4, ln.40-col.6, ln. 34.

With regard to claim 17, Vanderspool also discloses the step of controlling said user terminal to transmit data (col. 2, ln. 67-col. 3, ln. 34) to said network hub in accordance with said timing reference (col.3, ln. 27-34).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 2,8,10,16**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderspool and Garrison et al. (U.S. Pat No. 5,910,945).

With regard to claims 2 and 10, Vanderspool discloses the system and method in claims 1 and 9. However, Vanderspool fails to explicitly show a data frame transmitter, adapted to transmit a stream of data frames, as said timing signal, as recited in claim 2.

In an analogous art, Garrison discloses a data frame transmitter (col. 4, ln. 9-12), adapted to transmit a stream of data frames (Fig. 2, col. 4, ln. 13-20) as said timing signal (a synchronization field, col. 4, ln. 17), as recited in claim 2.

A person of ordinary skill in the art would have been motivated to employ Garrison in Vanderspool in order to obtain a stream of data frames. The suggestion/motivation to do so would have been to provide forward and return link synchronization. Garrison, col. 2, ln. 50-59. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Garrison and Vanderspool to obtain the invention as specified in claims 2 and 10.

3-7 11-15
9. **Claims ³⁻⁷3-5 and ¹¹⁻¹⁵11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderspool and Garrison as applied to claims 2 and 10 above, and further in view of Agarwal et al. (U.S. Pat No. 6,711,140).

With regard to claims 3 and 11, the combination of Vanderspool and Garrison discloses the system and method in claims 2 and 10. However, the combination fails to

Art Unit: 2667

explicitly show that a stream of data frames as Reed-Solomon frames, as recited in claims 3 and 11.

In an analogous art, Agarwal discloses a stream of data frames as Reed-Solomon frames (Reed-Solomon Coding, col. 12, ln. 37-40), as recited in claims 3 and 11.

A person of ordinary skill in the art would have been motivated to employ Agarwal in Vanderspool and Garrison in order to obtain Reed-Solomon frames. The suggestion/motivation to do so would have been to provide for bit and frame synchronization between the transmitter and the receiver over a transmission link without use of any special dedicated synchronization patterns within the data stream to perform frame acquisition and synchronization functions, without use of an bandwidth overhead and without use of any specialized hardware. Agarwal, col. 6, ln. 49-55. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Agarwal and Vanderspool and Garrison to obtain the invention as specified in claims 3 and 11.

With regard to claims 4 and 12, Agarwal also discloses respective groups of data frames (interleaved frame, col. 11, ln. 51-67), as recited in claim 4.

With regard to claims 5 and 7, 13 and 15, Agarwal also discloses numbering of data frames (frame number, col. 12, ln. 27-29), as recited in claims 5.

With regard to claims 6 and 14, where Agarwal and Vanderspool and Garrison do not clearly show a timing reference based on said numbers assigned to data frames, as recited in claim 6, a person of ordinary skill in the art would have been motivated to employ Agarwal in Vanderspool and Garrison in order to obtain a timing reference based on said numbers assigned to said data frames (Agarwal's frame header as shown in Fig. 4A and Garrison's header section in Fig. 2) and to combine Agarwal and Garrison to obtain the invention as specified in claim 6.

10. **Claims 18 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamkin et al. (U.S. Pat No. 6,298,048) in view of Vanderspool.

With regard to claims 18 and 21, Lamkin discloses

a transmitter 108 that is used to transmit signals to the two satellites 102,104 (col. 4, ln. 22-23) (a transmitter, adapted to transmit an uplink signal to a satellite in said network);

a receiver 110 that is used to receive signals from the two satellites 102,104 (col. 4, ln. 24-25) (a receiver, adapted to receive an echo signal based on said uplink signal transmitted to said satellite); and

a timing and recovery system 112 evaluates whether adjustment (timing reference) is needed in the rollover for either of two windows within a frame based on determined synchronization between receive gates (receiver) for each of the two satellites 102,104 and signals received from (transmitter) each of the two satellites

102,104 (col. 4, ln. 26-30) (a timing device 112 (timing recovery system, col. 4, ln. 19), adapted to establish said timing reference based on a time at which said receiver receives said echo signal in relation to a time at which said transmitter transmitted said uplink signal). However, Lamkin failed to explicitly show that the transmitter transmits an uplink signal to a satellite for receipt by said at least one network hub, said plurality of user terminals and said apparatus.

In an analogous art, Vanderspool discloses a satellite uplink transmitter 24 which transmits the system timing signals to the satellite 14 (a transmitter transmits an uplink signal to a satellite) which then responds to receiving the system timing signals by retransmitting the system timing signals through the simulcast transmission system 10. (col. 3, ln. 20-24). Vanderspool also discloses a system 10 that includes a plurality of transmission stations 16,18 and satellite receiver 26 (for receipt by said at least one network hub...and said apparatus). (col. 3, ln. 4). The plurality of transmission stations 16,18 for transmission to selective call receivers, such as display pager 19 (for receipt by ... said plurality of user terminals). (col. 3, ln. 11).

A person of ordinary skill in the art would have been motivated to employ Vanderspool in Lamkin in order to obtain a system that include a network hub and a plurality of user terminals. The suggestion/motivation to do so would have been to provide simulcast system equalization capability without the use of a global positioning satellite system. Vanderspool, col. 1, ln. 61-63. At the time the invention was made,

therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Vanderspool and Lamkin to obtain the invention as specified in claims 18 and 21.

11. **Claims 19-20 and 22-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamkin and Vanderspool as applied to claims 18 and 21 above, and further in view of Agarwal.

With regard to claims 19 and 22, the combination of Lamkin and Vanderspool discloses an apparatus and method as claimed in claim 18 and 21. However, the combination fails to explicitly show a stream of data frames as timing reference, as recited in claim 19.

In an analogous art, Agarwal discloses a stream of data frames as timing reference (col. 11, ln. 51-col.12, ln. 67), as recited in claim 19.

A person of ordinary skill in the art would have been motivated to employ Agarwal in Lamkin and Vanderspool in order to obtain data frames as timing reference. The suggestion/motivation to do so would have been to provide for bit and frame synchronization between the transmitter and the receiver over a transmission link without use of any special dedicated synchronization patterns within the data stream to perform frame acquisition and synchronization functions, without use of an bandwidth overhead and without use of any specialized hardware. Agarwal, col. 6, ln. 49-55. At the time the invention was made, therefore, it would have been obvious to one of

ordinary skill in the art to which the invention pertains to combine Agarwal and Lamkin and Vanderspool to obtain the invention as specified in claims 19 and 22.

With regard to claims 20 and 23, Agarwal also discloses a stream of data frames as Reed-Solomon frames (Reed-Solomon Coding, col. 12, ln. 37-40).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 703-305-8963. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

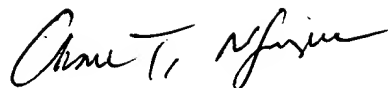
. Application/Control Number: 09/755,920
Art Unit: 2667

Page 11

Rw

BW

May 28, 2004



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600